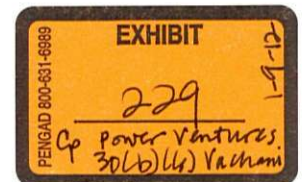


EXHIBIT 31

From: Steven Vachani
To: Steven Vachani
Subject: discussion with greg
Date: Thursday, August 11, 2005 11:23:39 PM

Steve says:
good evening
greg says:
good evening
Steve says:
whats new
greg says:
preparing to launch
Steve says:
did I tell you that we rebuilt the orkut site in .net,
built an engine to grab the entire content of orkut
and store it in xml, and then let people's entire
content be activated instantly when they arrive on the
site
Steve says:
our nex step is to set up the servers appropriately to
deal with traffic and numbers were discussing
Steve says:
also, when activating the engine to grab all the data,
we need to have a strategy that lets us grab all the
data without being detected
greg says:
that sounds like it was your plan.
Steve says:
yeah... after we talked last, we were analyzing some
sites and made decision to switch to .net
Steve says:
and took also implemented your idea regarding
scalability
greg says:
well i never saw what he did in the end so i don't
know if it was really what i was describing or not
Steve says:
abi will probably send you a copy of the code shortly.
he redid the entire site in .net
Steve says:
do you have any specific ideas that would make it
easier to implement this engine we created to pull all
the content from orkut.
Steve says:
what I mean is the actual grabbing, not the engine
greg says:
that's sort of a wide open question. I don't really
know how the grabbing is happening even
Steve says:
we are pulling all the content for all 8 million
users, their scraps, photos, and most importantly,
their friends. stored in xml format in our database
and then the content will be activated when a user
enters our site
greg says:
grabbing data is a very technical thing, the problems
you'll run into will be very specific to how orkut is



designed and what you try to do

greg says:

Pulling 8M users all at once will undoubtedly show up as an increase in their bandwidth use too

Steve says:

yeah. we estimated that there is about 500k of data per user on the system. we will have to have a clever ip rotating system and other techniques. this is something we are just starting to think about. they have about 1 million users on the site per day actively using it. so it will be interesting to figure out how much bandwidth will go up and if the pattern will be highly unusual

Steve says:

from alexa rankings, it looks like orkut has 1 billion page views per day if I am reading correctly. so do you think that it would be highly noticeable if planned correctly

greg says:

well if you download it from your servers the pattern will be very unusual

greg says:

if you can somehow arrange for the user's browser to be doing the download then it would be easier to miss

Steve says:

many users?

Steve says:

what do you mean somehow from a user's browser

greg says:

if you get the user's browser to download the info and then give it to you then at least the activity would be spread amongst all the user's ip addresses

Steve says:

the challenge is how to get all the info initially over a 1 week period. about 8 million users x 500k

greg says:

yeah i fear that may be doomed

Steve says:

and then only grab specific data when the user arrives on our site and gives us their user name and password... this allows us to activate their complete profile in real time from our database

Steve says:

is there a way to use 25,000 different computers to download all the data in some distributed project

greg says:

spammers do this, they distribute worms that infect people's windows machines to do their work for them.

greg says:

I can't help you with that though

Steve says:

but aren't there some legal companies that pay to use people's computers

Steve says:

and they pay for use of people's computers

Steve says:

or their bandwidth

greg says:

not to do network things. especially not to do distributed network attacks on one system

greg says:

akamai is kind of like what you describe, but i doubt they would do something like this either. to do something custom like this wouldn't be worth it for them unless it was really lucrative.

Steve says:

there have projects in the past that have gone into orkut's data to do analysis and research and geolocational data, and other types of research. I am not sure how much data they grabbed

Steve says:

assuming the ip address was dynamically changing, is the danger the pattern that would be easily recognized? Aren't their spiders from search engines that enter these sites every day

Steve says:

and grab data

greg says:

If they notice the increase in bandwidth then they'll look and see that an unreasonable percentage of their overall usage is coming from your network. If they don't notice then of course they don't notice. It's not like orkut has a huge team on it, it's a side project within google. They may not notice

greg says:

But if they notice it'll be pretty obvious what's going on if it's all coming from your servers.

greg says:

That's why I'm saying the only way to really hide things is to make the browser do the work for you. But that could be hard

Steve says:

there are data mining/spidering companies out there that specialize in this I think, right

greg says:

They don't download half a terabyte of data in a single week

Steve says:

what kind of people or companies would have more info on distributing and downloading a half a terabyte of data through 5000 distributed computers. are there any companies that would do a custom project like that

greg says:

I don't think any reputable company would do a project like that

Steve says:

and who have access to 5000 computers who have volunteered or made their computers available on a paid basis

greg says:

You would want to speak to spammers to see what they suggest

greg says:

You don't need 5000 computers, just 5000 ip addresses

greg says:

But that wouldn't really help you that much. orkut would still be able to see that it's all the same network unless it's something like i described with the spammer worms or abusing open relays

Steve says:

hmmm.... sounds like a challenge. what about search engine spiders which are grabbing this kind of data spidering through orkut

greg says:

you keep asking the same questions, the answers aren't going to change

greg says:

Those spiders go to a lot of effort *not* to download this much data all at once

Steve says:

ok no problem. thanks. if you have any other ideas on that, let me know

greg says:

precisely because if they don't they get noticed and blocked

Steve says:

on another note. you thought about coming to brazil any time soon? Second, is your schedule opening up any time soon?

greg says:

the only solution i see short of using those kinds of techniques spammers use is to use the users' browsers to do the downloading. but then you can't do it until the user shows up

greg says:

well we're preparing the launch now. I want to stick around long enough to recoup my investment but I should have more flexibility

Steve says:

i think that in the very near future, i would like to find out how much time you will have available. if you might have 10 hours a week of time available

Steve says:

or more?

greg says:

I should be able to do that in the near future

greg says:

not much more until we have more programmers on board though

Steve says:

i have a new project, www.cupidgame.com launching this month. it is a social networking site where you invite your friend to choose the best dates for you. we just finished the functionality and are now doing a new design before launch